

Title (en)  
ATMOSPHERIC RESOURCES EXPLORER

Title (de)  
NUTZER FÜR ATMOSPHERISCHE RESSOURCEN

Title (fr)  
EXPLORATEUR DE RESSOURCES ATMOSPHERIQUES

Publication  
**EP 2021625 A1 20090211 (EN)**

Application  
**EP 07747762 A 20070531**

Priority  
• PT 2007000022 W 20070531  
• PT 10348906 A 20060531

Abstract (en)  
[origin: WO2007139412A1] The invention herein described consists of a system destined to harness wind resources, transferring wind power to the ground station group on the surface, the process being performed through the tensioning and unwinding of the cable group connecting the airborne group to a reeler in the said ground station group. Through the control group the resultant force vector of the aerodynamic forces tensioning the cable can be significantly altered. This change in aerodynamic forces can be done in order to create two different phases which define the cyclic movement performed by the system: a work phase, where the resultant force vector is of greater magnitude and tensions the cable, unwinding it at the ground station group and thus producing power; and a recovery phase (which requires power from the system) when the cable is rewound in order to bring the airborne group back to its original position. Because the work produced in the work phase is of greater magnitude than the work required during the recovery phase, the system generates positive net power, which can then be introduced in the electrical grid, or stored as any other form of energy such as chemical or mechanical.

IPC 8 full level  
**F03D 5/00** (2006.01); **A63H 27/08** (2006.01); **F03D 11/04** (2006.01)

CPC (source: EP US)  
**F03D 5/00** (2013.01 - EP US); **F03D 9/19** (2016.05 - EP US); **F03D 13/20** (2016.05 - EP US); **F03D 15/10** (2016.05 - EP US); **F03D 80/10** (2016.05 - EP US); **F03D 80/30** (2016.05 - EP US); **F05B 2240/201** (2013.01 - EP US); **F05B 2240/917** (2013.01 - EP US); **F05B 2240/921** (2013.01 - EP US); **F05B 2240/922** (2013.01 - EP US); **F05B 2240/98** (2013.01 - EP US); **Y02E 10/70** (2013.01 - EP US); **Y02E 10/72** (2013.01 - EP); **Y02E 10/728** (2013.01 - EP US); **Y02E 70/30** (2013.01 - EP)

Citation (search report)  
See references of WO 2007139412A1

Cited by  
EP3215734A4

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK RS

DOCDB simple family (publication)  
**WO 2007139412 A1 20071206; WO 2007139412 B1 20080221**; AT E508275 T1 20110515; DE 602007014355 D1 20110616; EP 2021625 A1 20090211; EP 2021625 B1 20110504; EP 2341242 A2 20110706; EP 2341242 A3 20170426; EP 2341242 B1 20180801; PT 103489 A 20071130; PT 103489 B 20081128; US 2009278353 A1 20091112; US 8247912 B2 20120821

DOCDB simple family (application)  
**PT 2007000022 W 20070531**; AT 07747762 T 20070531; DE 602007014355 T 20070531; EP 07747762 A 20070531; EP 10398010 A 20070531; PT 10348906 A 20060531; US 30243507 A 20070531